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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,276	01/20/2006	Patrick Gehlen	32860-000989/US	7963
30596 7590 12/27/2007 HARNESS, DICKEY & PIERCE, P.L.C. P.O.BOX 8910 RESTON, VA 20195			EXAMINER GAMI, TEJAL	
			ART UNIT 2121	PAPER NUMBER
			MAIL DATE 12/27/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/565,276

**Applicant(s)**

GEHLEN ET AL.

**Examiner**

Tejal J. Gami

**Art Unit**

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

1. This office action is responsive to an AMENDMENT entered July 23, 2007 for the patent application 10/565276.

### **Status of Claims**

2. Claims 1-14 were rejected in the last Office Action dated April 24 2007. As a response to the April 24, 2007 office action, Applicant has Amended claim 1.

Claims 1-14 are now pending in this office action.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 6-7, and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Moshier (U.S. Patent Number: 4,228,498).

**As to dependent claim 1**, Moshier discloses a coupling apparatus for data buses (Fig. 1) (see Abstract), comprising:

a first connecting device for a first data bus (see Col. 18, Lines 18-21);

a second connecting device for a second data bus, as additional to the first connecting device (see Col. 18, Lines 21-24);

a data processing device (e.g., processor computations..function modules), connected to the first and the second connecting device to allow data to be interchanged between the data buses (see Col. 13, Line 43 to Col. 14, Line 26; and Col. 16, Lines 40-48); and

a third connecting device, connected to the data processing device, for a third data bus, as additional to the first and second data buses, to allow data to be interchanged between the three data buses (see Col. 18, Lines 24-27; and Col. 18, Lines 32-38), wherein the second data bus is a different type of bus system than the first data bus (e.g., three buses 16a, 16b, 16c) (see Figure 1; and Col. 5, Lines 34-37), and the third data bus is a different type of bus system than the first data bus and the second data bus (e.g., three buses 16a, 16b, 16c) (see Figure 1; and Col. 5, Lines 34-37).

**As to dependent claim 2**, Moshier teaches the coupling apparatus as claimed in claim 1, wherein the coupling apparatus is configurable (e.g., connecting or configuring) (see Abstract).

**As to dependent claim 3**, Moshier teaches the coupling apparatus as claimed in claim 2, wherein the coupling apparatus is configurable in such a way that the data transfer between at least two of the data buses is controllable as a function of the semantics of the data to be transmitted (e.g., a control element is connected to each of the buses for directing the operation) (see Abstract).

**As to dependent claim 6**, Moshier teaches the coupling apparatus as claimed in claim 1, wherein at least one of input and output modules are connectable to the third

data bus and are linkable to at least one of the first and the second data bus with the aid of the coupling apparatus (see Col. 18, Lines 24-38).

**As to dependent claim 7**, Moshier teaches the coupling apparatus as claimed in claim 1, including a monitor with a configuration capability (e.g., monitored...if so selected) (see Col. 7, Lines 34-45).

**As to dependent claim 13**, Moshier teaches the coupling apparatus as claimed in claim 2, wherein input/output modules are connectable to the third data bus and are linkable to at least one of the first and the second data bus with the aid of the coupling apparatus (see Col. 18, Lines 24-38).

**As to dependent claim 14**, Moshier teaches the coupling apparatus as claimed in claim 1, including a monitor with a configuration capability (e.g., monitored...if so selected) (see Col. 7, Lines 34-45).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-5 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moshier (U.S. Patent Number: 4,228,498) as applied to claims above, and further in view of Krivoshein (U.S. Patent Number: 6,449,715).

**As to dependent claim 4**, Moshier teaches the coupling apparatus as claimed in claim 1, as noted above. Moshier clearly teaches the first data bus, but does not specify a Profibus. Krivoshein teaches a Profibus (see Krivoshein: Figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized a Profibus as taught by Krivoshein to the first data bus of Moshier to acquire the correct and necessary information pertaining to each of the different devices within a device network (see Krivoshein: Col. 13, Line 60 to Col. 14, Line 23).

**As to dependent claim 5**, Moshier teaches the coupling apparatus as claimed in claim 1, as noted above. Moshier clearly teaches the second data bus, but does not specify an AS-i bus. Krivoshein teaches an AS-Interface bus (see Krivoshein: Figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized an AS-Interface bus as taught by Krivoshein to the second data bus of Moshier to acquire the correct and necessary information pertaining to each of the different devices within a device network (see Krivoshein: Col. 13, Line 60 to Col. 14, Line 23).

**As to dependent claim 8**, Moshier teaches the coupling apparatus as claimed in claim 2, as noted above. Moshier clearly teaches the first data bus, but does not specify a Profibus. Krivoshein teaches a Profibus (see Krivoshein: Figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized a Profibus as taught by Krivoshein to the first data bus of Moshier to acquire the correct and necessary information pertaining to each of

the different devices within a device network (see Krivoshein: Col. 13, Line 60 to Col. 14, Line 23).

**As to dependent claim 9**, Moshier teaches the coupling apparatus as claimed in claim 2, as noted above. Moshier clearly teaches the second data bus, but does not specify an AS-i bus. Krivoshein teaches an AS-Interface bus (see Krivoshein: Figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized an AS-Interface bus as taught by Krivoshein to the second data bus of Moshier to acquire the correct and necessary information pertaining to each of the different devices within a device network (see Krivoshein: Col. 13, Line 60 to Col. 14, Line 23).

**As to dependent claim 10**, Moshier teaches the coupling apparatus as claimed in claim 3, as noted above. Moshier clearly teaches the first data bus, but does not specify a Profibus. Krivoshein teaches a Profibus (see Krivoshein: Figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized a Profibus as taught by Krivoshein to the first data bus of Moshier to acquire the correct and necessary information pertaining to each of the different devices within a device network (see Krivoshein: Col. 13, Line 60 to Col. 14, Line 23).

**As to dependent claim 11**, Moshier teaches the coupling apparatus as claimed in claim 3, as noted above. Moshier clearly teaches the second data bus, but does not specify an AS-i bus. Krivoshein teaches an AS-Interface bus (see Krivoshein: Figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to have utilized an AS-Interface bus as taught by Krivoshein to the second data bus of Moshier to acquire the correct and necessary information pertaining to each of the different devices within a device network (see Krivoshein: Col. 13, Line 60 to Col. 14, Line 23).

**As to dependent claim 12**, Moshier teaches the coupling apparatus as claimed in claim 4, as noted above. Moshier clearly teaches the second data bus, but does not specify an AS-i bus. Krivoshein teaches an AS-Interface bus (see Krivoshein: Figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized an AS-Interface bus as taught by Krivoshein to the second data bus of Moshier to acquire the correct and necessary information pertaining to each of the different devices within a device network (see Krivoshein: Col. 13, Line 60 to Col. 14, Line 23).

### ***Response to Arguments***

7. Applicant's amendment and arguments filed July 23, 2007 have been fully considered. The amendment does not overcome the original art rejection and the arguments are not persuasive. The following are the Examiner's observations in regard thereto.

#### **Applicant Argues:**

Moshier discloses "a computing apparatus having at least three buses and a plurality of elementary function modules in circuit connection therewith."<sup>1</sup> However, Moshier does not disclose a coupling apparatus for data buses including connecting devices for the data buses which connect different types of bus systems. To the contrary, Moshier discloses "a plurality of buses 16a, 16b, and 16c. Each bus comprises a plurality of individual electrical lines, the lines being organized into groups."<sup>2</sup> Therefore, the buses disclosed by Moshier are each of the same type of bus system. Moshier does not disclose connecting devices coupled to data buses or a data processing device which allow data to be



interchanged between different types of bus systems. Accordingly, Moshier fails to disclose connecting devices coupled to data buses and/or a data processing device which allow data to be interchanged between data buses wherein "the second data bus is a different type of bus system than the first data bus, and the third data bus is a different type of bus system than the first data bus and the second data bus" as required by amended claim 1.

Examiner Responds:

Examiner is not persuaded. See office action above for claim limitations disclosed by the prior art. The added limitations are very broad. "Different types of bus systems" are taught by the prior art by Moshier's three separately distinguishable buses 16a, 16b, and 16c. The new limitations are not limited to a Profibus, AS-i bus, or peripheral bus. Under such consideration, the prior art teaches different types of bus systems.

Applicant Argues:

Applicant respectfully addresses separately the rejection of dependent claim 3. Moshier discloses a control element connected to each of the buses for directing the operation of the apparatus.<sup>3</sup> However, Moshier does not disclose that the data transfer is controllable based on the type of data to be transferred. For example, example embodiments in Applicant's specification at least at paragraph [0008] disclose the coupling apparatus may be configured in such a way that the data transfer between two or three of the data buses may be controlled as a function of the semantics of the data to be transmitted, for example, it may be possible to configure the transmission of standard data differently to that for the transmission of safety- relevant or security-relevant data. Accordingly, example embodiments disclosed in Applicant's specification may allow for the transfer of data to be controlled based on the type of data, e.g., the semantics of the data, to be transferred. Moshier does not disclose transmitting different types of data or data having different semantics, let alone a coupling apparatus configurable based on the semantics of the data to be transferred.

Examiner Responds:

Examiner is not persuaded. In addition to prior art teachings presented in the office action above, see Col. 4, Lines 29-45 for data to be placed on the respective bus data lines and bus class. Under such considerations, the prior art teaches semantics of the data to be transmitted.

Applicant Argues:

Applicant respectfully submits that even assuming for the sake of argument Moshier and Krivoshein are combinable (which Applicant does not admit), Krivoshein fails to cure the deficiencies of Moshier with respect to amended claim 1 as discussed above. In particular, Applicant respectfully submits that Krivoshein clearly fails to disclose a separate connecting device for each data bus, the connecting devices and/or a data processing device connecting data buses of different types of bus systems to allow data to be interchanged between the data buses. To the contrary, Krivoshein merely discloses a user input section 74 which prompts or otherwise enables a user to input information pertaining to any or all of the devices.<sup>4</sup> Therefore, Krivoshein merely discloses an user input section and not connecting devices coupled to data buses and/or a data processing device which allow data to be interchanged between data buses wherein "the second data bus is a different type of bus system than the first data bus, and the third data bus is a different type of bus system than the first data bus and the second data bus" as required by amended claim 1.

Examiner Responds:

Examiner is not persuaded. Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, the differences between the prior art and the claims in issue have been set forth. The level of ordinary skill in the art is deemed to be a person who is presumed to be aware of all prior art, specifically relating to bus systems. The rejection is based on what was known prior to the time the Applicant created the invention and rest on a factual basis, and supported by the motivation as noted in the above office action.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tejal J. Gami whose telephone number is (571) 270-1035. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on (571) 272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


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TJG  
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RONALD HARTMAN, JR.  
PRIMARY EXAMINER

12/17/2007